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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,717	07/05/2007	Stephen Latham Goldson	JAW-101/PCT/US	8603

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Lumen IPS
2345 Yale Street
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EXAMINER

PATEL, PUNAM

ART UNIT	PAPER NUMBER
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2855

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/562,717	Applicant(s) GOLDSON ET AL.	
	Examiner PUNAM PATEL	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/23/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, (i) the package including a transmitter, (ii) the package including a pump or a fan, and (iii) the package including a complementary detection device must be shown or the features canceled from the claims. **No new matter should be entered. See 112 1st rejection below.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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Claim Objections

Claim 10 is objected to because of the following informalities: Claim 10 is a duplicate of Claim 2. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The disclosure fails to teach how a transmitter is included in the detection package (i.e. where such a transmitter would be positioned)? What type of transmitter is utilized? With what electronic components in the package is the transmitter associated with?

Furthermore, the disclosure fails to teach the method of detecting a signature volatile wherein a transmitter is utilized to interrogate the 'surface' by a device external of the confined environment.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 1 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite the step of "comparing the desorbed volatiles against a data base of known profiles" (see the last two lines of the claims, respectively). It is unclear as to what a "profile" is or comprises. Furthermore, how would one compare a desorbed volatile to a profile? The claims fail to clearly claim the analysis steps of the method. As best understood the chromatogram of the sample is compared to chromatograms of known signature volatile.

Claims 1 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: analyzing the desorbed volatiles in order to obtain a "profile"/chromatogram which can then be utilized in the comparison step.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

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reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3, 5, 6, 8, and 10-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Augusto et al. (F. Augusto, J. Koziel, and J. Pawliszyn. “Design and validation of portable SPME devices for rapid field air sampling and diffusion-based calibration.” Anal. Chem. Vol. 73 No. 3 2001: pp 481-486).

With respect to Claims 1 and 13, Augusto et al. disclose a method and means of detecting the signature volatile compounds from targeted materials in a confined environment comprising the steps of:

providing a package which includes a surface (Abstract, the SPME fiber), the package including means to enable a flow of air to pass over the surface to enable volatile compounds from the targeted materials carried in the air to be trapped by the surface (Fig. 1);

locating the package within the confined environment for an extended period of time (pg. 483, the fiber is exposed to forced air for 30 seconds in indoor rooms);

desorbing the trapped volatiles from the surface (pg. 483, col. 2); and

comparing the desorbed volatiles against a data base of known profiles of signature volatile compounds of the targeted materials (pg. 484, the resulting spectra are analyzed to determine presence of specific compounds, the spectra of the PDAS-SPME method is also compared with the NIOSH method spectra).

With respect to Claims 2, 10, and 15, Augusto et al. teach coating the surface with a porous polymer solid phases (Abstract).

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With respect to Claim 3, Augusto et al. teach locating the package in a confined area (the indoor room) for a period of time (wherein 30 seconds is sufficient to allow the volatile compounds to be adsorbed), removing the package and releasing the compounds for analysis (pg. 482-484).

With respect to Claims 5, 8, 14, and 16, Augusto et al. teach an electrical fan adapted to move air over the surface (Fig. 1, wherein the hair dryer comprises a fan), wherein the fan is integral with the package.

With respect to Claims 6 and 12, Augusto et al. teach drawing air over the surface for specific periods of time (pg. 483, wherein the air must be drawn for some period of time and various air speeds were sampled).

With respect to Claim 11, Augusto et al. teach releasing the volatile compounds from the surface using controlled heating of the surface (pg. 482, Experimental Section).

With respect to Claim 17, the device of Augusto et al. is operable in a shipping or aircraft container (enclosed environment).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 4, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knollenberg et al. (US 7,208,123) in view of Stein (S. E. Stein. "An integrated method for spectrum extraction and compound identification from GC/MS data". NIST. February 2004.)

With respect to Claims 1, 4, and 7, Knollenberg et al. disclose a method and means of detecting the signature volatile compounds from targeted materials in a confined environment comprising the steps of:

providing a detection device in the confined environment which outputs a frequency signal corresponding to detect volatile level in the ambient air (col. 19: 20-45, the SAW sensor), wherein the detection device enables telemetric communication of data (Fig. 3, # 84) [**Claims 4 & 7**];

providing a package which includes a surface, the package including means to enable a flow of air to pass over the surface to enable volatile compounds from the targeted materials carried in the air to be trapped by the surface (Fig. 15 & col. 20: 30-33, the sorbent tube);

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allowing the flow of air to pass over the surface of the sorbent tube if the detected volatile level by the detection device is above a threshold (col. 19: 40 to col. 20: 25);

locating the package within the confined environment for an extended period of time (col. 20: 20-25, wherein the sorbent tube is exposed to the gas flow for some period of time);

desorbing the trapped volatiles from the surface (col. 20: 23-24 & col. 3: 33-40); and

providing a chromatogram/profile of the desorbed volatiles (col. 3-33-44, wherein a gas chromatography device is understood to provide a chromatogram).

However, Knollenberg et al. fail to explicitly teach the vapor identification method using the GC comprising the steps of comparing the measured profile against a data base of known profiles of signature volatile compounds of the targeted materials.

Stein teaches a method for identifying target compounds from GC data by comparing the measured spectra to spectra in a reference library (Abstract). It would have been obvious to one having ordinary skill in that art at the time of invention to include the step of comparing the measured profile against a data base of known profiles, as taught by Stein, in the detection method of Knollenberg, in order to provide a volatile detection method that reliably performs individual component identification over conventional analysis (Stein, Abstract).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Augusto et al. (F. Augusto, J. Koziel, and J. Pawliszyn. "Design and validation of portable SPME devices for rapid field air sampling and diffusion-based calibration." Anal. Chem. Vol. 73 No. 3 2001: pp 481-486) in view of Mujica (US 2002/0157276).

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With respect to Claim 9, Augusto et al. teach supplying power to the hair dryer with a cord (Fig. 1), but fails to explicitly teach using a battery operated hair dryer (i.e. cordless hairdryer). Mujica teaches powering a hairdryer with a battery (Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a battery powered hairdryer, as taught by Mujica, in the SPME device of Augusto et al., in order to provide an SPME device that is portable (Mujica, Abstract).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art disclosed in the PTO-892 discloses similar gas detection devices and methods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PUNAM PATEL whose telephone number is (571)272-6794. The examiner can normally be reached on Monday to Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lisa Caputo can be reached on (571) 272-2388. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PP/

06/11/2009

/Lisa M. Caputo/
Supervisory Patent Examiner, Art Unit 2855